5.8_V2.2 SWITCH FROM BEP A TO BEP B

Last Revised: May 24, 2016
Filename: switch_bepa_b

BRIEF FUNCTIONAL DESCRIPTION:

This is a contingency procedure to switch from using BEP A to using BEP B.

The sequence of actions will be:

1. Issue power-down command for FEPs and video boards
2. Select BEP B
3. Cold boot BEPs
4. Verify BEP B boots from SW TLM
5. Check HW LEDs
6. Check SW LEDs
7. Issue power-down command for FEPs and video boards

The procedure does a cold boot to get the instrument into a known state, so if there were patches loaded into BEP B they will be lost. The operator should be cognizant if patches must be subsequently loaded. The final power-down command ensures that the control register in the newly active BEP reflects the current FEP power status.

ASSUMED INSTRUMENT STATE:

Assumes that DPA A & B are on.
Assumes BEP A is functional and can accept a power-down command.

SPECIAL INITIAL CONDITIONS:

None.

OPERATIONAL CONSTRAINTS/CAUTIONS:

Any patches loaded into BEP B will be removed as a result of this procedure. This procedure resets the focal plane temperature setting.

REFERENCES:

CHANGE HISTORY:

V1.2

- deleted commands at the beginning which powered down DPA side A and powered up DPA side B
- added the command to disable uplink boot in step 2.1 and perform a cold boot instead of a warm boot

V1.3

- added steps 2.5, 2.6, and 2.7 to verify that BEP B boot properly.

- added a Operational constraint/caution that patches in BEP B are removed by this procedure.

V2.0

- ACIS Team signed-off version
- changed expected value of "1STAT7ST" in step 2.6

V2.1

- Modified the initial conditions to include the requirement: "The FEPs and the video boards must be powered off."

V2.2

- Added warning about focal plane temperature settings.
- Minor formatting change to table.
- Added steps to power down FEPs and video boards before and after the switch.
- Added initial state for BEP A.

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Table 1: **SWITCH FROM BEP A TO BEP B(Page 1)**

Step #	Title (Revision 5.8_V2.2)	Time Req (m)	Command Description	Command Mnemonic	Telemetry Description	Telemetry Mnemonic	Expected Value
1	**Issue Power Command**						
1.1	Power off FEPs & Video Boards	1	changeConfigSetting	WSPOW00000			
2	**Select BEP B**						
2.1	Select BEP B	1		1BSELICL(1)			
3	**Cold Boot BEPs**						
3.1	Set boot modifier off	1	DPA Boot Modifier	1BMODIBM(0)			
3.2	Set warm boot flag off	1	DPA Cold Boot	1WRMBTSB(0)			
3.3	Halt BEP	1	DPA Command Reset	1RSETIRT(1)			
3.4	Restart BEP	1		1RSETIRT(0)			
3.5	Check BEP B Boot	2					
3.6	Check HW LEDs	2			BEP Select BEP FIFO Not Full BEP FIFO Not Empty	1STAT4ST 1STAT6ST 1STAT7ST	1 1 0
3.7	Check SW LEDs	2			BEP initialization Watchdog boot Science run status	1STAT3ST 1STAT2ST 1STAT1ST 1STAT0ST	0 1 1 0or1

Table 1: **SWITCH FROM BEP A TO BEP B(Page 1)**

Step #	Units	Telemetry EGSE	Other Verifier	Crit	Description	Notes	RT Con	Tlm Fmt	Min Alt	SIM Pos
1										
1.1		Verify cmdResult==1 commandEcho 773		1 1			Y	1or2		
2										
2.1					1BSELICL=1 selects BEP B		Y	1or2		
3										
3.1					Disable uplink boot		Y	1or2		
3.2					Cold boot active BEP		Y	1or2		
3.3					Hold active BEP reset line		Y	1or2		
3.4					Release BEP reset line		Y	1or2		

3.5		Check bepStartupMessage:
		bepTickCounter < 10; version=11;
		warmBootFlag = 0;
		patchValidFlag = 1
		Check swHousekeeping messages:
		startingBepTickCounter < 10;
		endingBepTickCounter=
		startingBepTickCounter+640;
		version = 11
				1
				1
				1
				1
				
				2
				2
				
				1
							Y	1or2		

3.6				2 2 2	1 indicates BEP B is selected 1 means FIFO not full 0 means FIFO empty		Y	1or2		
3.7				1 2 2 2	0 means BEP SW is running 1 means no watchdog boot 1 means science idle This bit toggles to indicate BEP is running		Y	1or2		

Table 1: **SWITCH FROM BEP A TO BEP B(Page 2)**

Step #	Title (Revision 5.8_V2.2)	Time Req (m)	Command Description	Command Mnemonic	Telemetry Description	Telemetry Mnemonic	Expected Value
4	**Issue Power Command**						
4.1	Power off FEPs & Video Boards	1	changeConfigSetting	WSPOW00000			
	Total Time:	13					

Table 1: **SWITCH FROM BEP A TO BEP B(Page 2)**

Step #	Units	Telemetry EGSE	Other Verifier	Crit	Description	Notes	RT Con	Tlm Fmt	Min Alt	SIM Pos
4										
4.1		Verify cmdResult==1 commandEcho 773		1 1			Y	1or2		